

CLAIMS

1. A heat treatment determining method comprising the steps of:

5 executing a heat treatment of a magnetic layer by irradiating a laser beam of a first power to an area between tracks of a magnetooptic information recording medium obtained by laminating the magnetic layer onto a substrate on which the tracks have previously been formed,

10 in which said magnetic layer is constructed by a recording layer to hold recording magnetic domains according to recording information,

 a displacement layer made of a perpendicular magnetic film whose domain wall coercive force is smaller and whose domain wall displacement speed is higher than those of said recording layer, and

15 a switching layer which is arranged between said recording layer and said displacement layer and whose Curie temperature is lower than those of said recording layer and said displacement layer;

20 irradiating a laser beam of a second power smaller than said first power to said heat-treated area;

 detecting a level of a magnetooptic signal from reflection light of the laser beam of said second power;

25 and

 determining whether said heat treatment is proper or improper on the basis of said detected magnetooptic

signal.

2. A heat treatment determining method according to claim 1, wherein

5 a predetermined signal is recorded onto said magneto optic information recording medium upon execution, before execution, or after execution of said heat treatment.

3. A heat treatment determining method according to claim 1, wherein

10 said magneto optic information recording medium is magnetized in one direction upon execution, before execution, or after execution of said heat treatment.

4. A heat treatment determining method according to claim 1, wherein

15 an area of a spot of the laser beam of said second power on said magneto optic information recording medium is larger than that of a spot of the laser beam of said first power.

5. A heat treatment determining apparatus comprising:

20 heat treatment means for executing a heat treatment of a magnetic layer by irradiating a laser beam of a first power to an area between tracks of a magneto optic information recording medium obtained by laminating the magnetic layer onto a substrate on which the tracks have
25 previously been formed,

in which said magnetic layer is constructed by a recording layer to hold recording magnetic

domains according to recording information,

a displacement layer made of a perpendicular magnetic film whose domain wall coercive force is smaller and whose domain wall displacement speed is higher than those of said recording layer, and

a switching layer which is arranged between said recording layer and said displacement layer and whose Curie temperature is lower than those of said recording layer and said displacement layer;

irradiating means for irradiating a laser beam of a second power smaller than said first power to said heat-treated area;

detecting means for detecting a level of a magneto optic signal from reflection light of the laser beam of said second power; and

determining means for determining whether said heat treatment is proper or improper on the basis of said detected magneto optic signal.

6. A heat treatment determining apparatus according to claim 5, wherein

a predetermined signal is recorded onto said magneto optic information recording medium upon execution, before execution, or after execution of said heat treatment.

7. A heat treatment determining apparatus according to claim 5, wherein

said magneto optic information recording medium is magnetized in one direction upon execution, before

execution, or after execution of said heat treatment.

8. A heat treatment determining apparatus according to claim 5, wherein

5 an area of a spot of the laser beam of said second power on said magnetooptic information recording medium is larger than that of a spot of the laser beam of said first power.